

CLAIMS

1. A method of producing a synthetic resin rod, comprising:

5 an extruding step of extruding a synthetic resin rod;

a pre-cooling step of spraying a cooling medium on said rod to pre-cool said rod extruded down to a temperature (T°C) satisfying the following condition:

10 $T \leq \{(a \text{ softening point of said synthetic resin}) + 5\} \text{ [} ^\circ\text{C} \text{]} ; \text{ and}$

a main cooling step of letting said rod thus pre-cooled pass through water to cool the rod.

15 2. The method according to Claim 1, wherein said rod extruded is cooled down in said pre-cooling step to a temperature (T°C) satisfying the following condition:

20 $\{(\text{the softening point of said synthetic resin}) - 35\} \leq T \leq \{(\text{the softening point of said synthetic resin})\} \text{ [} ^\circ\text{C} \text{]} .$

25 3. The method according to Claim 1, wherein said cooling medium is air and said air is sent to the periphery of said rod in said pre-cooling step.

4. The method according to Claim 1, wherein said cooling medium is misty water droplets and said misty

water droplets are sprayed on the periphery of said rod in said pre-cooling step.

5. The method according to Claim 4, wherein said misty water droplets have a mean particle size in the range of 20 to 80 μm .

6. The method according to Claim 1, wherein said cooling media are air and misty water droplets, and said pre-cooling step comprises:

a first pre-cooling step of sending said air to the periphery of said rod; and

a second pre-cooling step of spraying said misty water droplets on the periphery of said rod.

7. A method of producing a synthetic resin rod, comprising:

an extruding step of extruding a synthetic resin rod; and

20 a cooling step of letting said rod pass through a water tank to cool said rod while preventing leakage of water from a rod entrance, wherein said water tank comprises a water tank body, a first lid member provided with the rod entrance and attached to one end portion of said water tank body, and a second lid member provided with a rod exit and attached to another

end portion of said water tank body, said water tank is filled with cooling water inside, and said rod entrance is equipped with a leak preventing device for preventing the leakage of water from said rod entrance.

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8. The method according to Claim 7, wherein said leak preventing device comprises:

an outer cylinder having a diameter smaller than a diameter of said water tank body, having a water inlet in a cylindrical wall thereof, and arranged coaxially in said water tank body;

an inner cylinder being shorter than said outer cylinder, having a diameter smaller than the diameter of said outer cylinder, and arranged coaxially in said outer cylinder; and

a sealing member for sealing a portion outside said inner cylinder in said rod entrance,

wherein, while said rod is inserted in said inner cylinder, water introduced from said inlet to the space between said outer cylinder and said inner cylinder is forced to flow in a moving direction of said rod, thereby preventing the leakage of water from said rod entrance.

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